User Manual
HexView PC Software

For HXE310 CT & CTPT Meters

Hexing Electrical Co., Ltd.
www.hxgroup.cn

[2013.3]

Introduction

This user manual covers all aspects of using the HexView software, which is specially designed for Hexing prepaid keypad electronic watt-hour meter.

User-friendly interface and convenient operation are the main features of this HexView software.

The following sections describe how to

- Install the HexView on a Windows 2000 or above based computer

- Connect to a meter or system of meters

- Obtain readings

- Program meters

Hexing Electrical reserves the right of final interpretation

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1 Installation

1.1 System Requirements

● Hardware requirement

-   Pentium 586/166MHz, or above based personal computer

-   CD ROM disk drive

-   At least 10GB of HDD space

-   At least one free, serial interface (Com-Port or USB port)

● Software requirement

-   Windows 2000 or above

-   Monitor with a fewest resolution of 600x800 pixel

● Other

-   RS232 type optical port or USB type optical port

1.2 How to Install

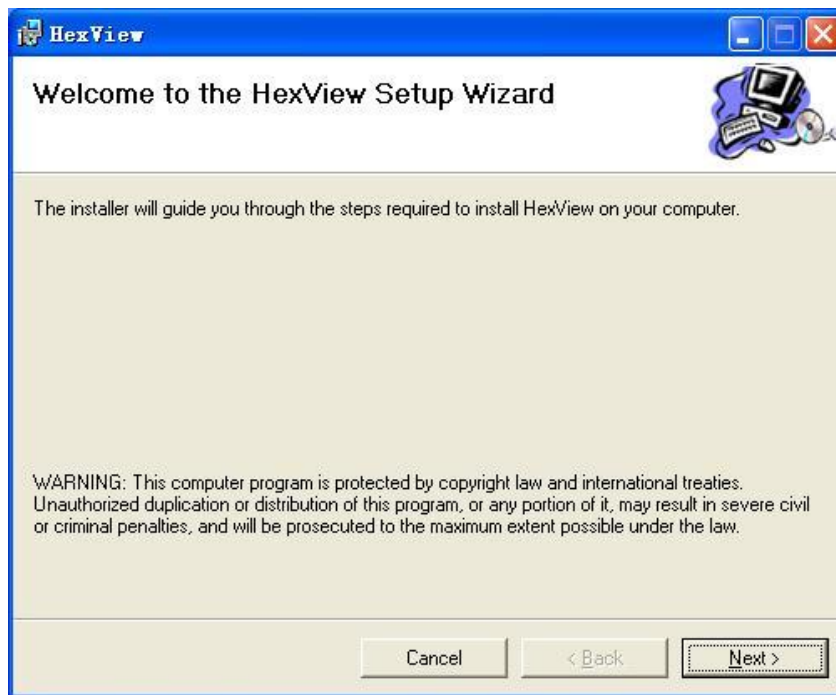If .NET Framework 2.0 has installed, a green version is provided.

To install this **HexView** software, please follow the following steps:

(a) Close all other active applications.

(b) Insert the **HexView** software CD into CD ROM drive

(c) Double click application from the install package.

(d) Wait for seconds, the installer dialogue box appears.

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Start installation

(e) Follow the instructions on the screen to progress the installation.
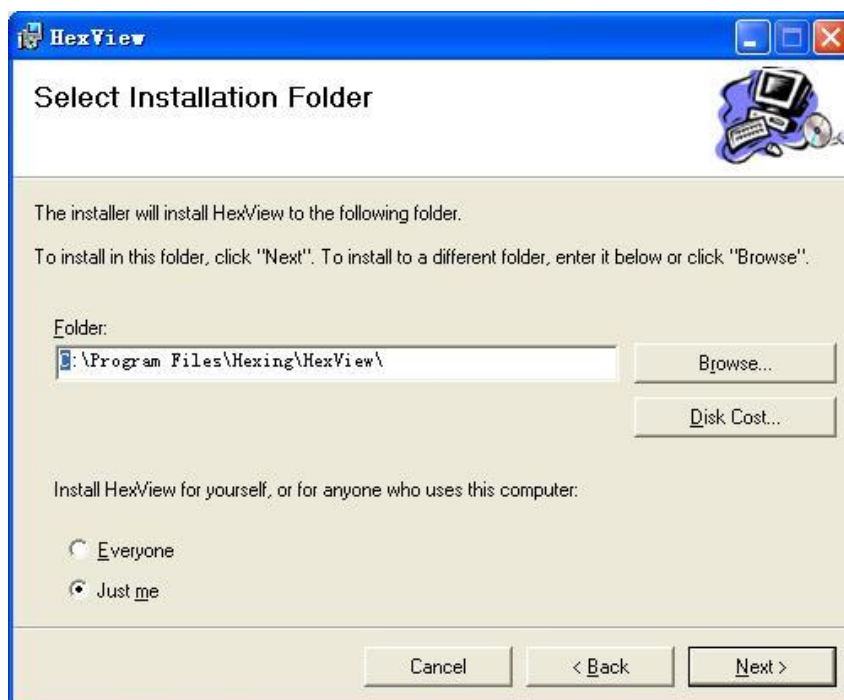
Selection

(f)   Click button [Next >] to the next interface.
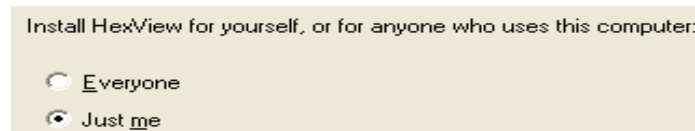
i **NOTE:** The default install disk drive is C.

Folder:

C:\Program Files\Hexing\HexView\   Browse...
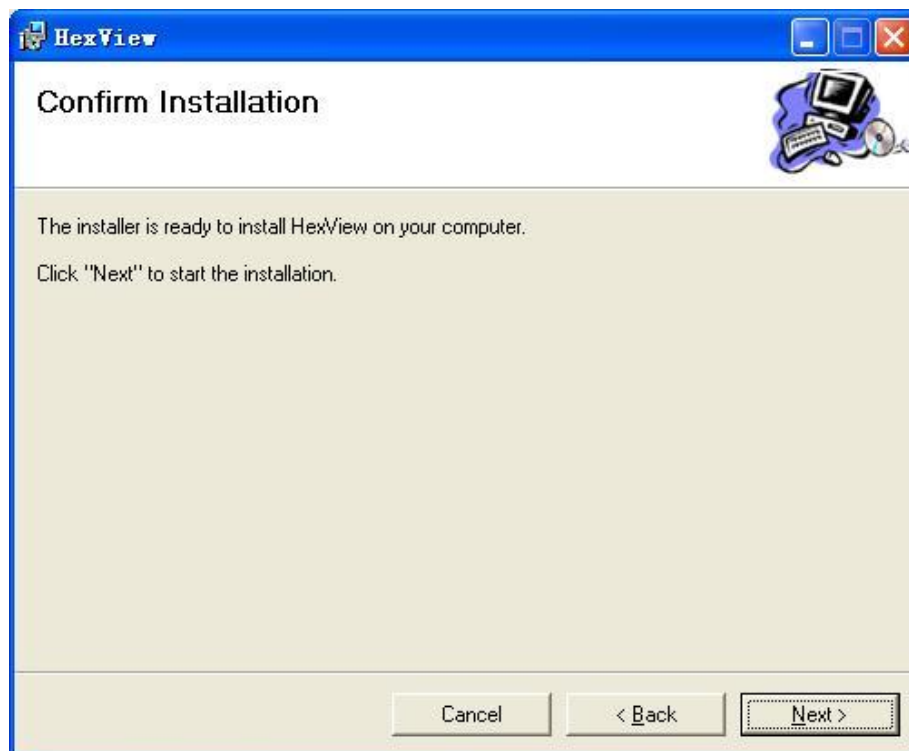
Default install disk

(g) Click button Browse... to select the desired disk drive for installing HexView software.

And then choose the access mode authorized to this PC software.

Install HexView for yourself, or for anyone who uses this computer:
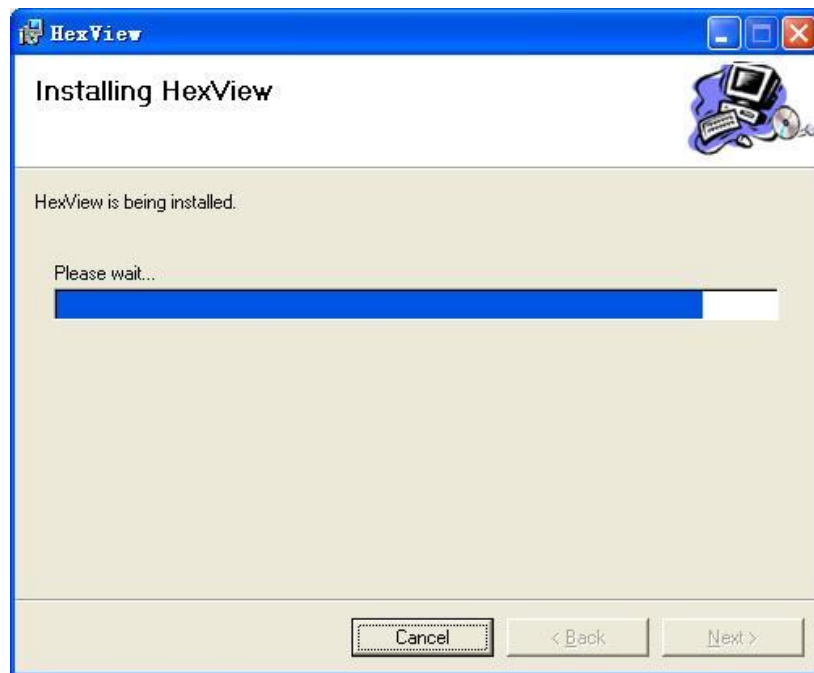
○ Everyone

● Just me

User

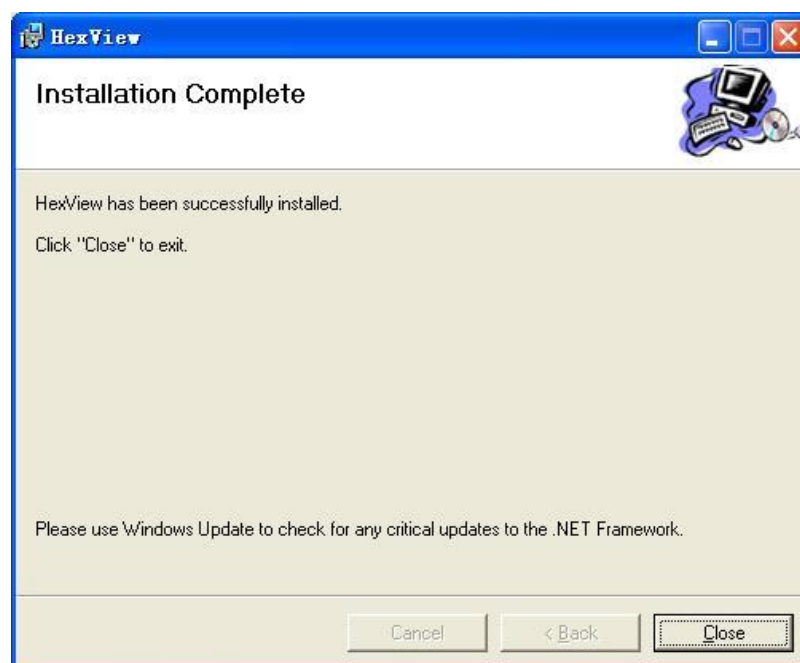(h) Click Next > to continue the installation.

Confirm

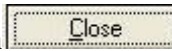Wait for a while till the completion of the installation process.

Waiting for installation

Please wait some seconds, in order to complete installation of the PC software. After successful installation, a new icon will appear on the desktop.
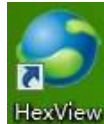

Installation Complete

Please click button [____Close____], at this time, a new icon [HexView] appears on the desktop. Double click this icon to operate.

2   HexView Basic

2.1 Login

Before start-up this HexView PC software, please ensure that the PC connection with the electricity

meter via optical probe. After successful installation, the new icon will appears on the desktop.

Double click shortcut to login.

Login

Key in the User name and Password correctly, and then click button OK to enter into the main window.

NOTE: The default administrator ID is 'Hexing' and default password is 000000. This user is in the highest security level, which cannot be deleted and can change the password only by itself.

3 Main Window Interface

3.1 Overview

After logging in, the below interface appears. The interface is initial window interface.
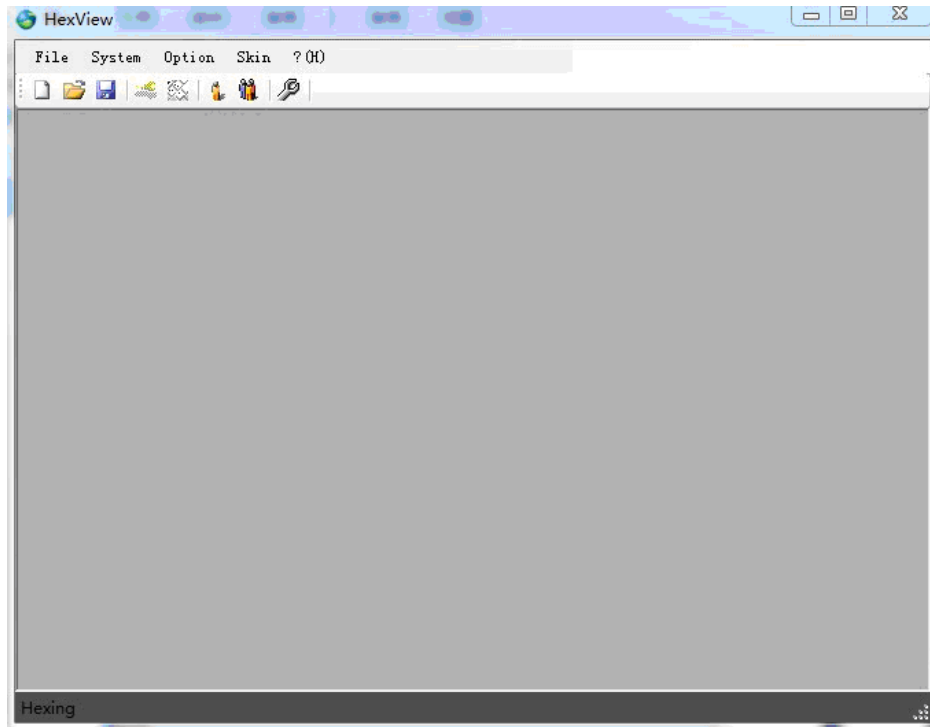
Main window interface

The menu bar contains all the functions.

The main menu consists of Title bar, Menu bar and Icon bar.
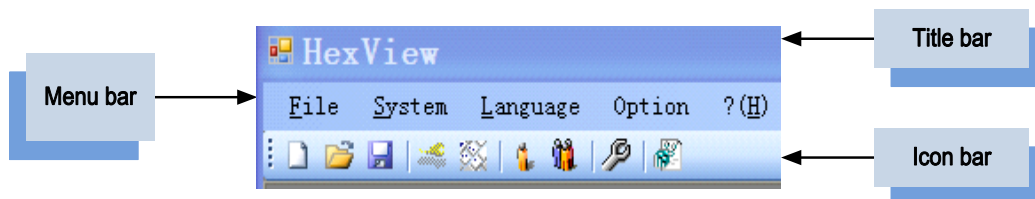
Main menu

3.2 Functions of Menu

3.2.1 Menu Bar

(a) File menu: In this menu there are 5 functions: New, Open, Save, Save as, And Exit.
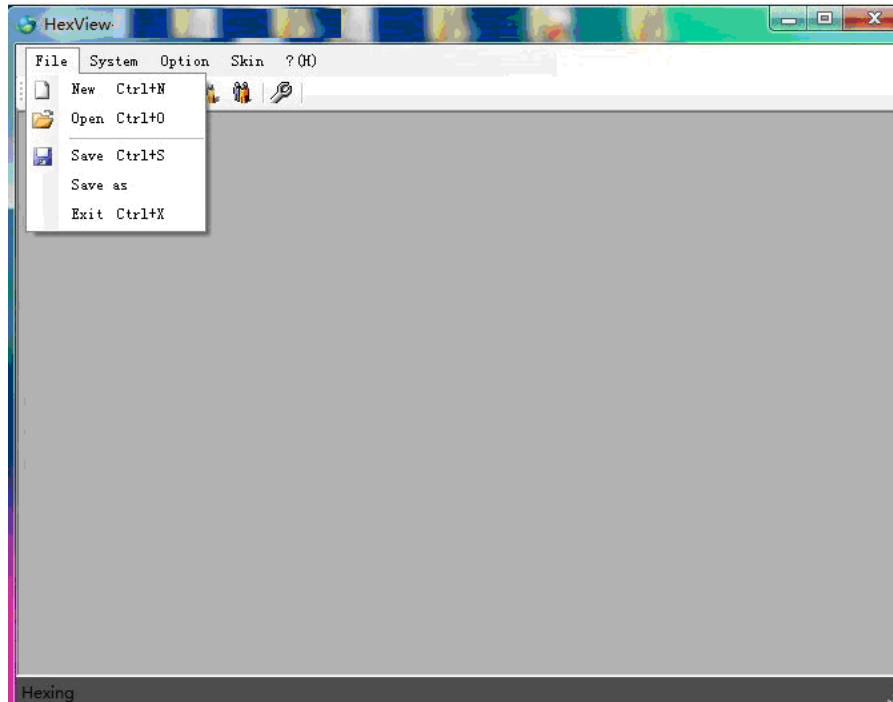
File menu

File menu icon

Icon	Name	Purpose
	New	Add establish meter parameter scheme
	Open	Open the existing meter parameter schemes
	Save	Save meter parameter scheme in default format
	Save as	Save as meter parameters scheme
	Exit	Exit HexView

NOTE: all these documents here are .dat files.

(b) System menu: In this menu there are 4 functions: User shift, Password change, User

management, and Level access.

System menu

System menu icon

Icon	Name	Purpose
	User shift	Registration User switchover
	Password change	Change password, which is user's password. The users can change their own passwords
	User management	Add, edit or delete user account (Five levels of users are available. User named Hexing is the supervisor and has the highest access right who cannot be deleted), the user of level 1 has the right to manage other users
	Level access	Access Level, there are five levels totally. Level access defines operation authority of each level

(c) Option: reference about communication, Parameters about meter type, protocol, media, port, and baud rate, initial the communication parameters here before reading or programming the meter.

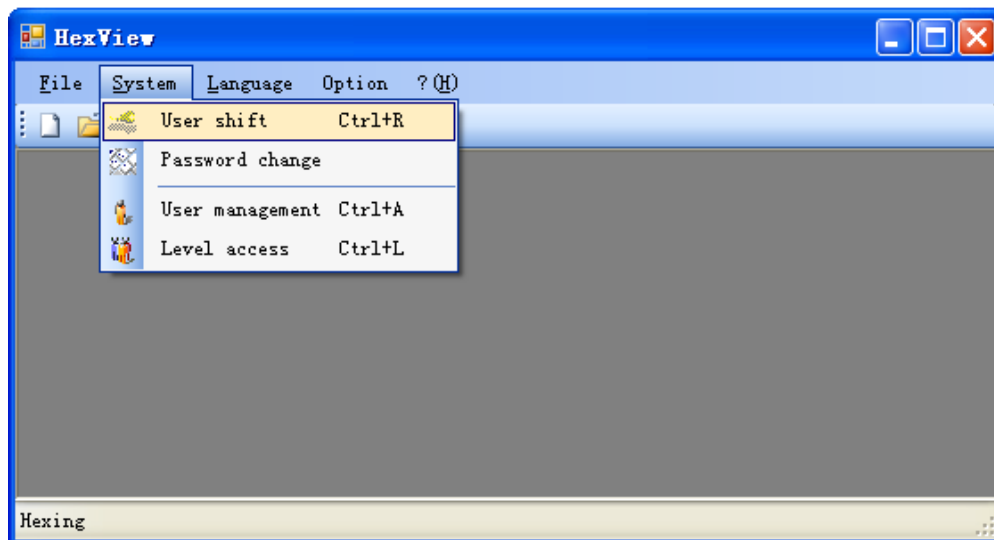**Add**: 1418Moganshan Road, Shangcheng Industrial Zone,310011, Hangzhou City, China
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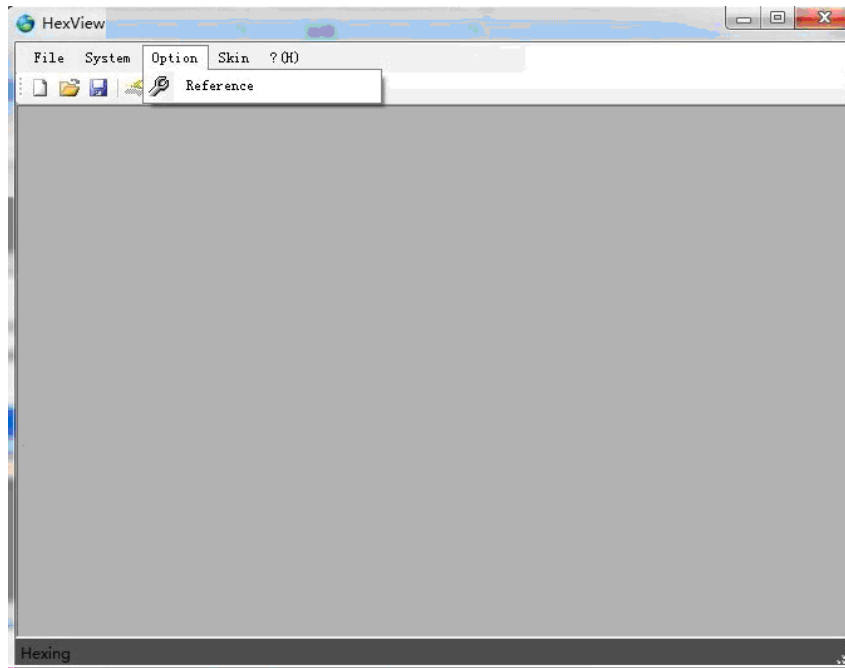
Option menu

(d) Skin: there are more than 20 kinds of skin provided for HexView.
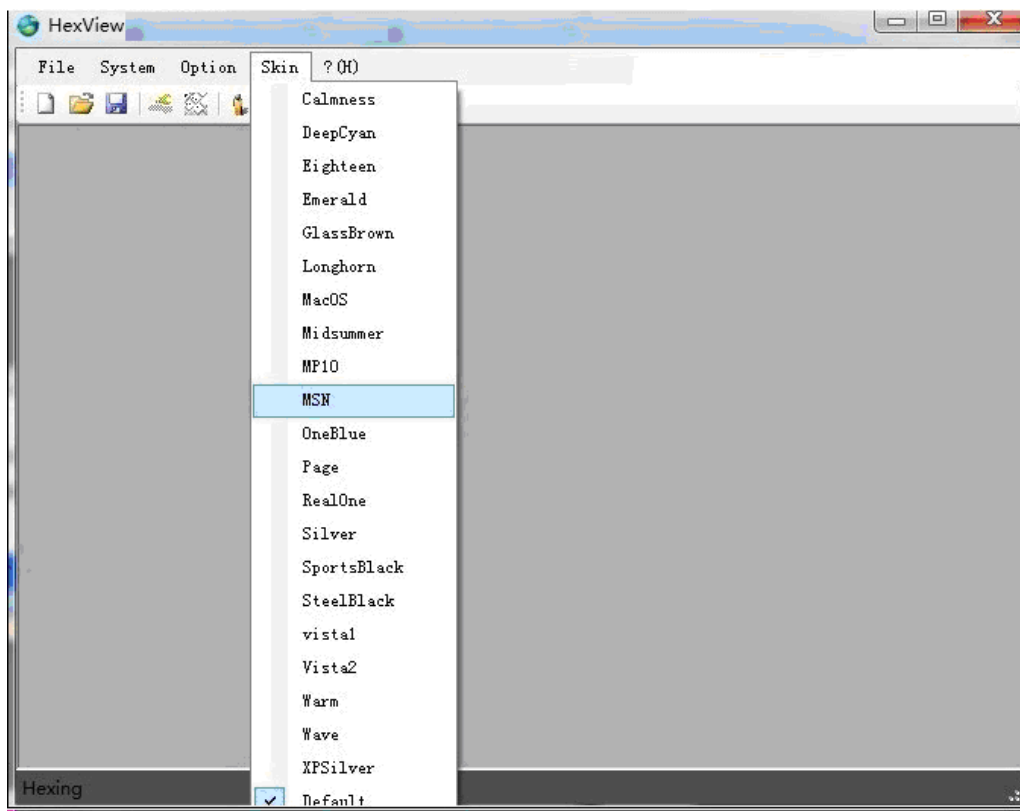
Skin menu

(e) Help menu: check version of HexView.

Click 'About…' of Help menu, and appear the below dialog box.
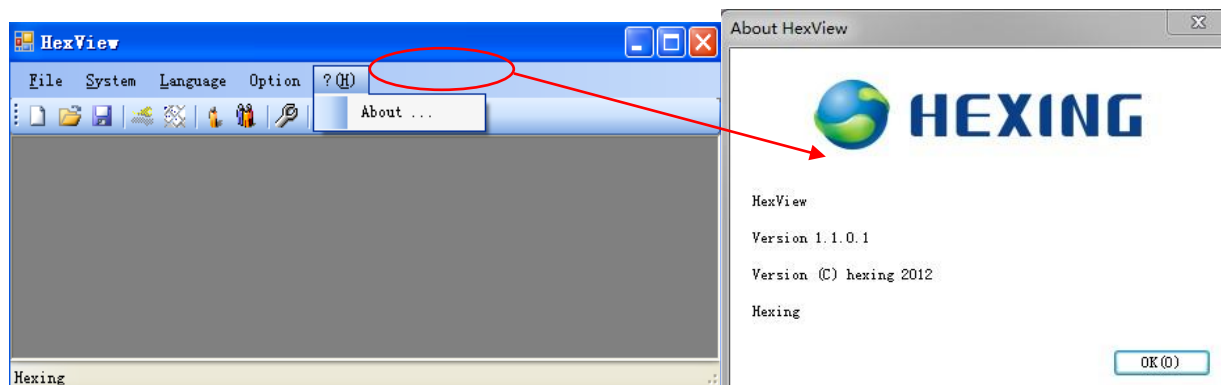
This displayed the version information of the HexView.

3.2.2 Icon Bar

3.2.2.1 Icon Guide

The icon bar contains some frequently used functions.

Functions in icon bar

Icon	Name	Purpose
	New	Add establish meter parameter scheme
	Open	Open the existing meter parameter schemes
	Save	Save meter parameter scheme in default format
	User shift	Registration User switchover
	Password change	Changes password, which is user's own password
	User management	Add or delete user account (Five levels of users are available. User named Hexing is the supervisor and has the highest access right who cannot be deleted)Add, edit or delete user account (Five levels of users are available. User named Hexing is the supervisor and has the highest access right who cannot be deleted), the user of level 1 has the right to manage other users
	Level access	Access Level, there are five levels totally. Level access defines

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|		operation authority of each level
🔧	Reference	Parameters about meter type, protocol, media, port, and baud rate, initial the communication parameters here before reading or programming the meter
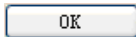
3.2.2.2 Illumination

(a) User shift: switch users.

If there has been a meter parameter scheme, confirm dialog box will appear after clicking .
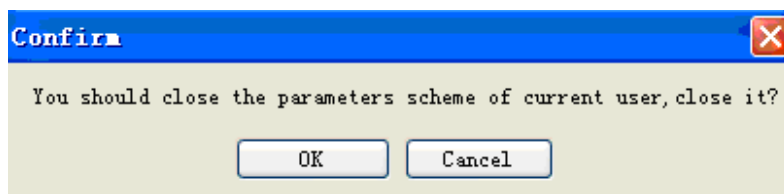
Confirm switching users

If there has never been opened a meter parameter scheme or click in confirm dialog box,

Login dialog box will appear again.

Login again

(b) Password change: change password of users.

Click shortcut ▨ or 'Password change' in system menu and pop up the below dialog box.

Password change

Change password setup

Name	Explanation
Username	Displays the name of current user
Old password	Inputs the old password of current user into this text box.
New password	Inputs the new password of current user into this text box
Confirm	Inputs the New password again to assure its right
OK	Saves amendment

(c) User management: add ,edit or delete users.

Click 'User management' to pop up the dialogue box as below, and you could get all kinds of work of user information such as addition, modification done.

● **Add user:** Key in the 'Username' and 'Password' , select specific security level for the user and click 'Add' button; then click 'Save' to store the latest data. There are two authentication level: HLS and LLS, HLS has the right to read and write the meter, but LLS only can read meter. Program ID is reserved for future use.

● **Delete user:** Select the user except 'Hexing' in the user list, and click 'Delete' button to delete it and then deleted user will disappear in the user list.

● **Edit user**：Select the user in the user list, and click 'Edit' button, and then you can change the content in the blank of Password/Level. After editing, the information of the user list will be refreshed.

User management

(d) **Level access:** define authorities for each level users.

There are 5 levels for users(3 levels for some meter type), and users in each level can have same or different scope operations. The scope of each level can also be set by Level1.

For example, the below figure means that Level4 can have operations of Parameters, Energy, Instantaneous values and Meter ID.

Level access

 (e) **Reference:** Refer to meter types and communication parameter.

It can change communication parameter here, and be sure that the meter type and COM port are

correct before communication with meter. Make sure that no parameter scheme is opened before

changing the meter type. The threshold of over time is provided for you to modify when the

communication is not very good. Some meters support more than one protocol, for example

DLMS(Mode E) and DLMS(Direct HDLC for RS485), in HexView the default protocol is

DLMS(Mode E), if DLMS(Direct HDLC for RS485) is selected when communication, the

SubStation No. should be changed to four bytes, see detail information in chapter about option .

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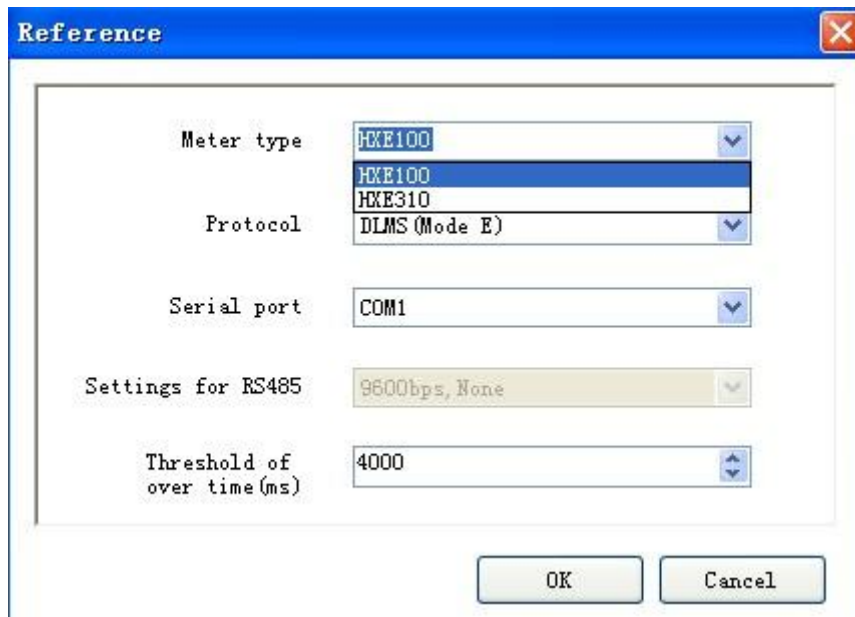
Reference

4 Main Communication Interface

4.1 Overview

4.1.1 Area Partition

When adding a new file or open existing file, the main communication interface will appear:
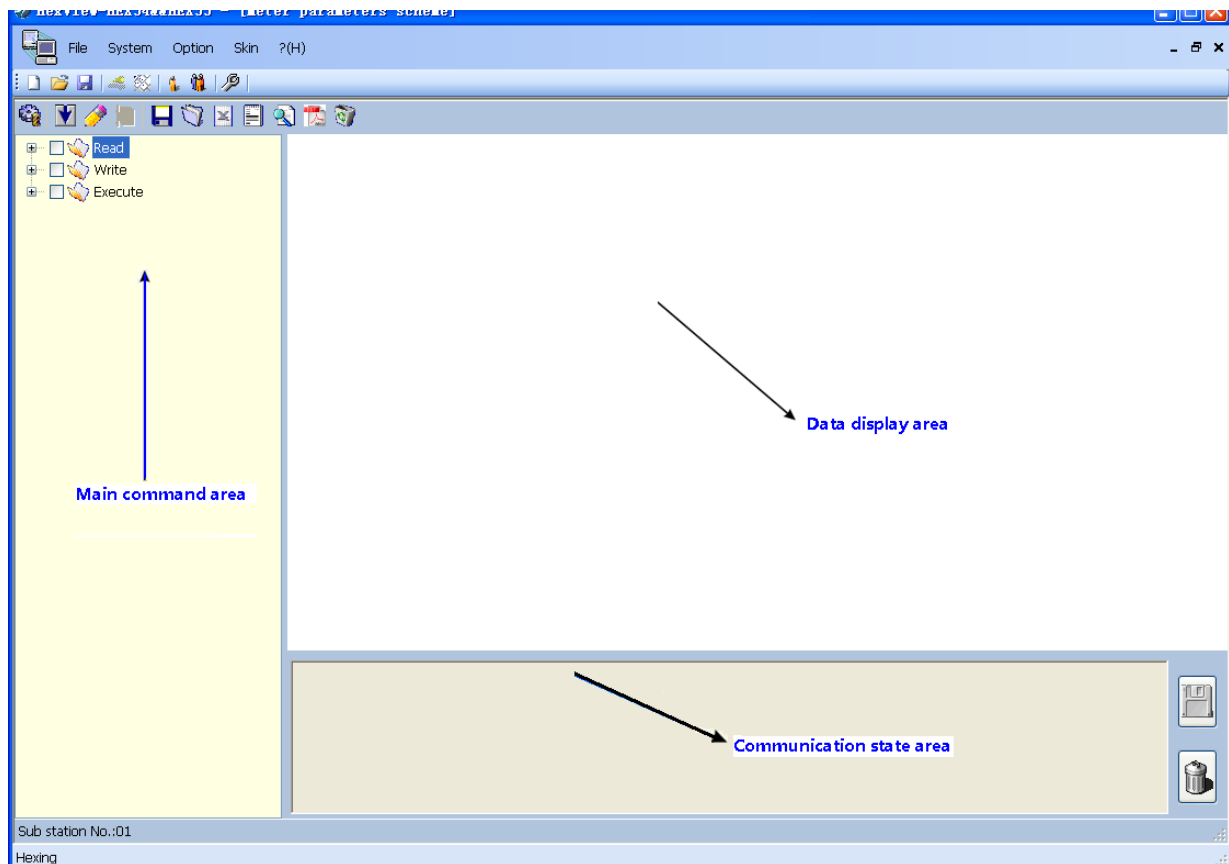
Main communication interface

This HexView, PC software, is major in configuration and readout data tool. Each tree node is corresponding to relevant command. The main command is read, write and execute   their function separately are data readout, parameter writing into and the execute operation.

The main window splits into main three parts of the main window.

Parts of main communication interface

Name	Location	Purpose
Main command area	The left area	It is major in main command selection
Data display area	The top right area	It is used for display readout data information
Communication state area	The bottom right area	It is designed for review communication state

4.1.2 Icons Menu

There are following icons available:
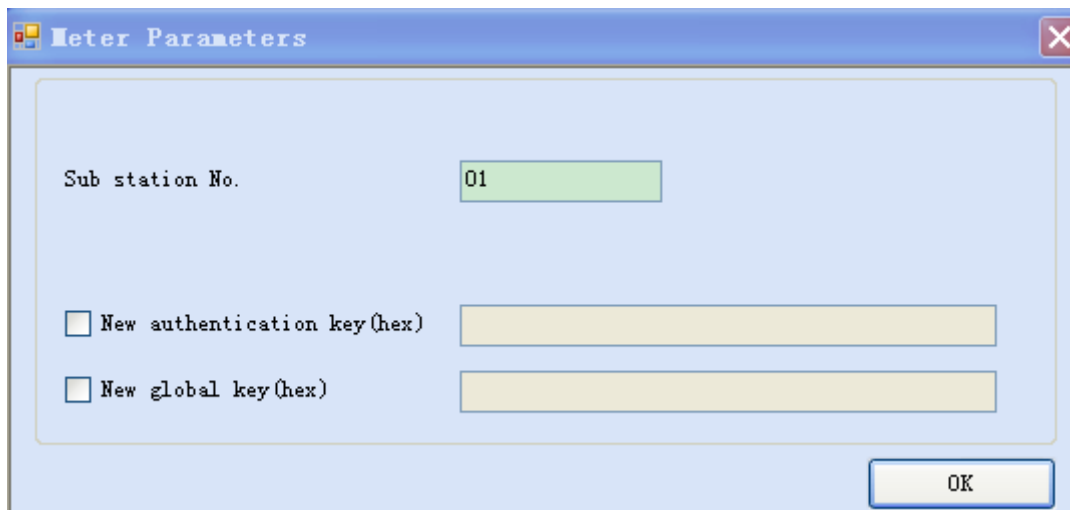
Functions of icons menu

Icon	Name	Purpose
	Option	Get knowledge of or change Sub station No. and password or AES key.
	Read	Meter data readout
	Write	Write parameters into meter
	Disconnection	Disconnects communication
	Save	Save parameters. The checked configurations will save to file(.set)
	Open	Open the .set file to load the saved configurations.
	Save as excel	Save data as excel format
	Save as txt	Save data as txt file
	Print	Print preview previous print
	Save as PDF	Save data as PDF format
	Clear	Delete the data of selected items (the data are displayed in the Data Display Area in HexView and not in Meter), and then the data becomes default values.

NOTE: After clicking   (Option), Meter Parameters will appear. See or change sub station No. and keys.

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Meter Parameters

Parameters

Name	Explanation
Sub station No.	Generally it is "01", it is the logical address of meter. If you is going to communicate with one meter, input the correct sub station No. For protocol DLMS(Mode E) the length of sub station No. is 1 byte, but for DLMS(Direct HDLC for RS 485) it is 4 bytes which is the last 2 bytes of the meter serial number in the nameplate add '0001'.
Authentication key	AES-GCM-128 is adopted for the security of information transfer. Authentication key is part of additional authenticated data. The default Authentication Key of the meter is 16 bytes of hex. HexView will not save the keys, If the authentication Key of the meter is not the default value(00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00), you should input the correct authentication key here. It can be changed in menu 'Modify keys'.
Global key	AES-GCM-128 is adopted for the security of information transfer. Global key is the key for ciphering. The default Global Key of the meter is 16 bytes of hex. HexView will not save the keys, If the global Key of the meter is not the default value(00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00), you should input the correct authentication key here. It can be changed in menu 'Modify keys'.

4.2 Parameters Operation Tools

Click symbol 🖫 in the left column, the relevant electronic values will be displayed.

Parameters operation tools on meter parameters scheme can separately operate option on the left, and

also operate multi-options or all the options depending on user's choice. User has chosen all the read

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operations and Basic parameters option of write operation, so that when click all the parameters of these options will be read.

NOTE: HexView for different types of meters may contains some special parameter items, e.g. for direct connection meter it do not contain CT/PT item.
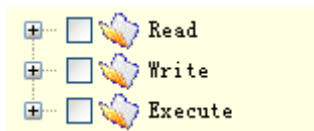
Parameters operation tools

Functions of main command area

Name	Explanation	Purpose
Read	Readout	Reads data in meter
Write	Configuration	Sets data in meter
Execute	Executing	Executes especial operations in meter

When clicking , read all the selected parameters, and show and save the data readout. Symbol stands for displayed items in display window.

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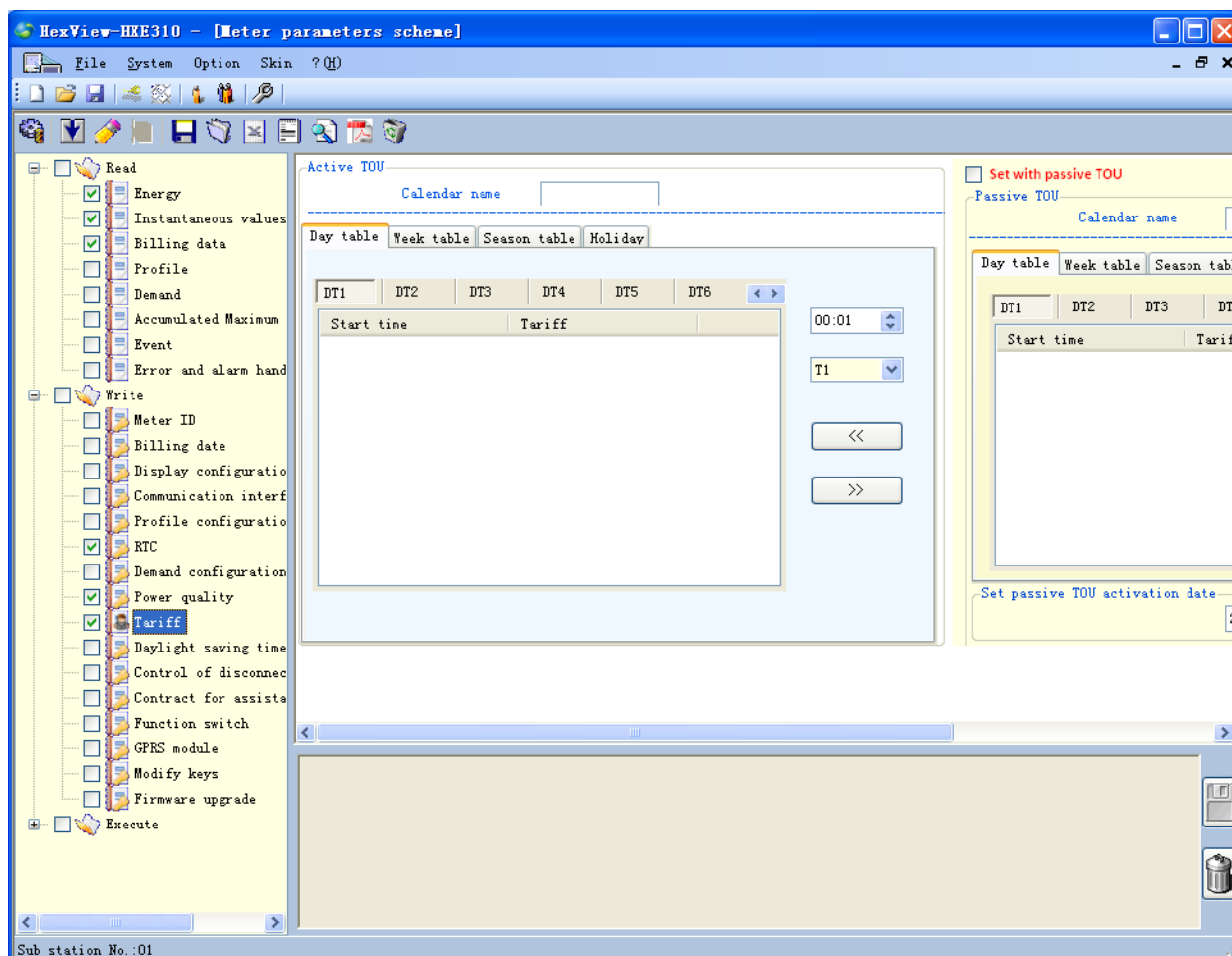
Selected item to display

When reading and writing, it will appear relevant communication information in the textbox at the bottom of window, and error information will be marked with red. Click on the right to save information on the textbox, and click to delete this information.
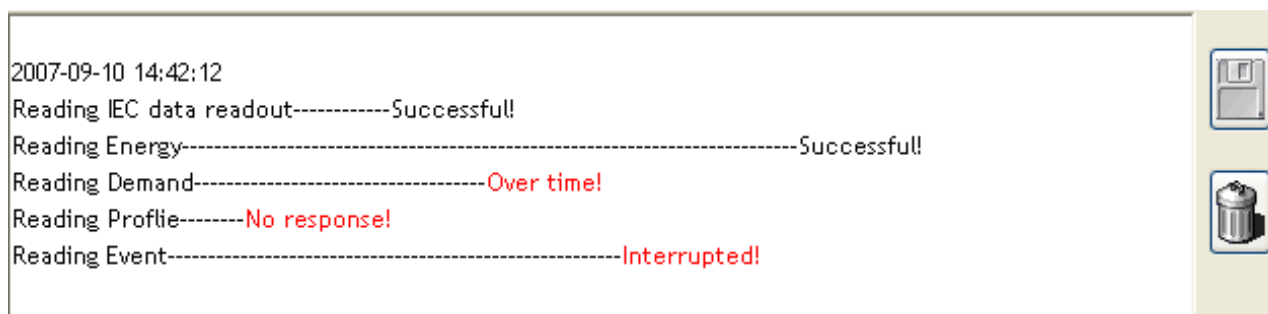
peration in communication state area

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5 Main Software Functions

5.1 Read

The Meter Read is used for readout the register data in the meter by HexView.

5.1.1 Parameters

Current parameters of the meter which are read only. Such as current tariff number, firmware version.

No.	Description	Value
1	Current tariff number	01
2	Recharge times	0
3	Total recharge credit	0
4	Output status of assistant disconnector	connected

Parameters

5.1.2 Energy

Current value of energy.

No.	OBIS	Description	Value
1	1.8.0	Active energy (+)	0Wh
2	1.8.1	T1 active energy (+)	0Wh
3	1.8.2	T2 active energy (+)	0Wh
4	1.8.3	T3 active energy (+)	0Wh
5	1.8.4	T4 active energy (+)	0Wh
6	3.8.0	Reactive energy (+)	0Wh
7	3.8.1	T1 reactive energy (+)	0Wh
8	3.8.2	T2 reactive energy (+)	0Wh
9	3.8.3	T3 reactive energy (+)	0Wh
10	3.8.4	T4 reactive energy (+)	0Wh
11	2.8.0	Active energy (-)	0Wh
12	2.8.1	T1 active energy (-)	0Wh
13	2.8.2	T2 active energy (-)	0Wh
14	2.8.3	T3 active energy (-)	0Wh
15	2.8.4	T4 active energy (-)	0Wh
16	4.8.0	Reactive energy (-)	0Wh

Energy

5.1.3 Instantaneous Values

Instantaneous Values of meter, such as voltage, current, frequency, active power. For three phase, the
 values are of every phase.

No.	OBIS	Description	Value
1	32.7.0	Voltage	239V
2	31.7.0	Current	0A
3	14.7.0	Frequency	49.99Hz
4	1.7.0	Active power (+)	0W
5	2.7.0	Active power (-)	0W
6	3.7.0	Reactive power (+)	0var
7	4.7.0	Reactive power (-)	0var
8	29.7.0	Apparent power	0VA
9	33.7.0	Power factor	1

Instantaneous values

5.1.4 Billing data

Billing data, you can select all to read all billing data, also you can select the data range to read part
of billing data.

	All	Select from	2011-06-29	to	2011-06-29	

No.	Description	Value
1	Data&time	11-07-27 10:03
2	AMR profile status of E-meter	A4
3	Active energy (+)	0Wh
4	T1 active energy (+)	0Wh
5	T2 active energy (+)	0Wh
6	T3 active energy (+)	0Wh
7	T4 active energy (+)	0Wh
8	Reactive energy (+)	0varh
9	T1 reactive energy (+)	0varh
10	T2 reactive energy (+)	0varh
11	T3 reactive energy (+)	0varh
12	T4 reactive energy (+)	0varh
13	Active energy (-)	0Wh
14	T1 active energy (-)	0Wh

Billing data

5.1.5 Profile

Read the profile log, there are 17 channels totally, the parameters of each channel can be modified in menu 'profile configuration'. The records of a channel can be read out totally or partly.
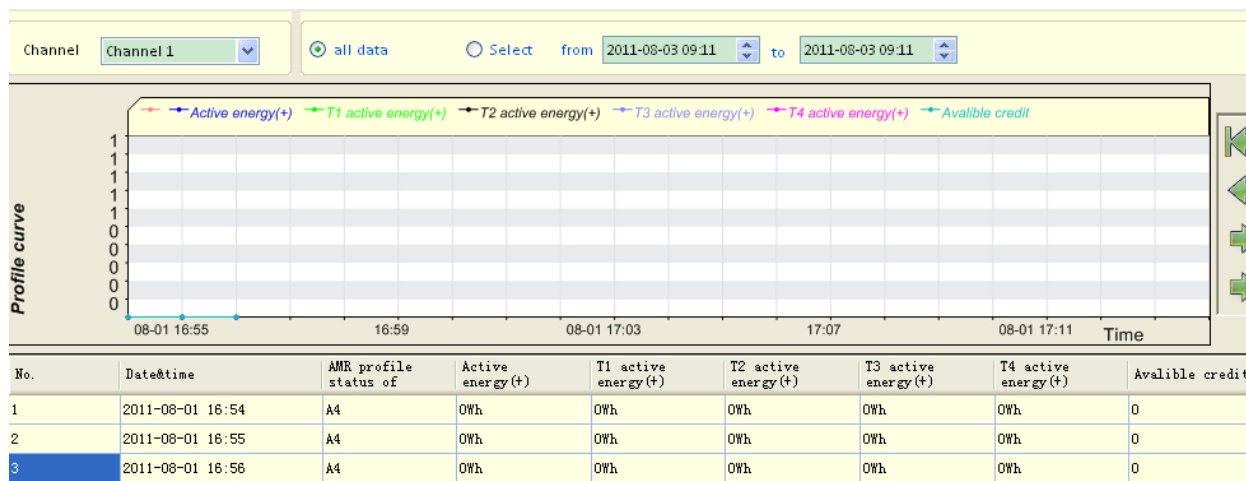
Profile

5.1.6 Event

There are several types of event. You can choose reading some of them, also you can read the events during a period of date.

Standard event log records all general events, e.g changes of the clock, changes of the configuration, clearing of profiles, all kind of self check errors, activation of new parameters, activation of new time of use, etc.

Fraud detection log records events related to fraud attemps, e.g removal of terminal cover, removal of meter cover.

Disconnector control log records the events related to the disconnector, e.g connect, disconnect, changing the disconnector threshold.

Grid event records the events related to power outages, low voltage, overvoltage, etc. Long power failure log records the occurring time and duration of long power outages.

Long power outage event log records End of long power outage and Duration of long power outages.

Strong DC field records events about strong DC.

Meter cover removed records occurring time when meter cover removed.

Terminal cover removed records occurring time when terminal cover removed.

Current reverse records start and end of current reverse.

Program records the occurring time when program.

Power outage records the events about short power outage.

Recharge records the events about recharges.

Event

5.1.7 Error and alarm handling

A predefined selection of events set and clear flags in the error register. The error register can be read and displayed at anytime to see, if there is a malfunction in the device. Depending on the type of error, some errors clear themselves if the reason for the error has disappeared. Other must be cleared via CAS. Nevertheless the events are stored in one of the event logs.

All alarm flags in the alarm register remain active until the alarm register is cleared via CAS (acknowledgment). Typically fraud attempts are selected as alarm triggers. Typically fraud attempts and critical errors are selected as alarm triggers. Power outages normally can't be selected since the communication network is also down in case of a power outage.

When some events such as power down, clock adjusted, daylight saving, data not valid, clock invalid and critical error occur in E-meter, the corresponding bit of AMR profile status code will be set.

Error and alarm handling

5.2 Write

The Meter Write is used for setting the parameters in the meter. Also the parameters to configure can be read.

5.2.1 Meter ID

They are information about identification numbers. Here you can change the parameters about meter location.

Serial number	
Equipment identifier	
Software identifier	
Hardware identifier	
software identifier of Measurement chip	
software crc16 check	
Measurement chip software crc16 check	
Function location	
Location information	
Model software identifier	
Model hardware identifier	
Bootloader identifier	
Bootloader check	

Meter ID

5.2.2 Billing date

It is used to read and configure the closing date of billing period.

Click 'Billing date' in main menu.

Format of Billing date is 'dd hh' ('date hour', dates are from 01 to 28 and hours are from 01 to 23), and the default billing date is at 0 clock on 1_{st} in each month.

Billing date(Format:dd hh)   01 00

Billing date

5.2.3 Display Configuration

Display items: it can set the contents displayed on the LCD and the scrolling interval between previous and former items.

Auto scroll display interval	Auto scroll display items	Manual display items	Manual display items with security

Display configuration

(a) Auto scroll display interval: set scrolling interval (unit：second).
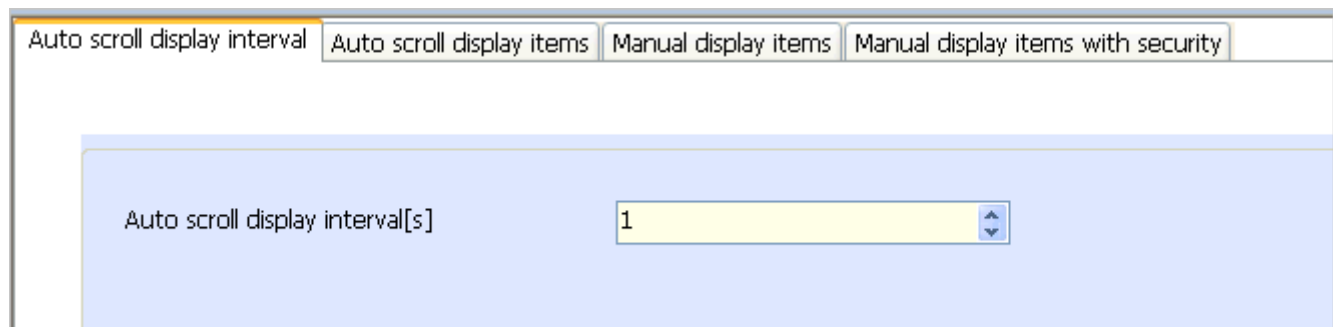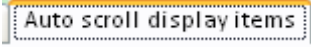
Time & Format

(b) Auto scroll display items: get or set the contents displayed on the LCD in Auto scroll sequence.

(c) Manual display items: get or set the contents displayed on the LCD in manual scroll.

Make Auto scroll display items as an example:

1. Select the ☑ before , and click . Then click read button to read the configurations in the meter first. The items that are already configured in the meter will display in the left column.

2. Select ☑ before items in the right column and click . The selected items will display in the left column.

3. If some items in the left column are considered unnecessary to display in auto scroll display mode, select these items and click or double click the selected item, they will be removed from the display list.

4. Check if the display items list in the left column is correct. If there is no mistake, click to write this configuration to the meter.

5. Repeat the first step to see if the items are successfully written to the meter.

Add items displayed

Items setup

Name	Explanation
Auto scroll display interval	Set Scrolling interval [sec]. The range of it is from1s to 99s.
Auto scroll display items	Get or set the contents displayed on the LCD in Auto scroll sequence in the meter
Manual display items	Get or set the contents displayed on the LCD in Manual scroll sequence in the meter
Manual display items with security	Get or set the contents displayed on the LCD in **Manual display items with security**

NOTE: If need delete some items in Data Display Area, click [>>] or double click the selected items, and then click . Execute writing operation.

5.2.4 Communication interface

Define the interface of Optical port and RS-485. If optical communication is disabled, the baud rate

for it will be invalid.

NOTE: If the communication address of RS-485 is changed when meter communicates through

RS-485, please update the parameter configuration accordingly.

Communication   interface

5.2.5 Profile configuration

There are 17 channels provided (less than 17 for some type meter), the capture objects, capture

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period, start address and entries size of each channel can be read or write. Max number of records is read only. The max number of capture objects for every channel is 9(item 1-item 9), any item configured to be nothing should be "not specific".

It should be noted that the start address of channel 1 for single phase meter should be greater than 16476, and it should be greater than 22134 for three phase. The maximum address for profile is 540671. The start address of one channel should not less the value that start address of former channel plus the size of former channel.

Profile recorder channels	Channel 1	Channel 2	Channel 3	Channel 4	Channel 5
Period[min]	1	1440	1440	1440	15
Item 0	Average voltage	AMR profile status of E-meter	AMR profile status of E-meter	AMR profile status of E-meter	AMR profile status o
Item 1	Minimum voltage	Reactive energy(+)	Active energy(-)	Reactive energy(-)	not specific
Item 2	not specific	T1 reactive energy(+)	T1 active energy(-)	T1 reactive energy(-)	not specific
Item 3	not specific	T2 reactive energy(+)	T2 active energy(-)	T2 reactive energy(-)	not specific
Item 4	not specific	T3 reactive energy(+)	T3 active energy(-)	T3 reactive energy(-)	not specific
Item 5	not specific	T4 reactive energy(+)	T4 active energy(-)	T4 reactive energy(-)	not specific
Item 6	not specific	not specific	not specific	not specific	not specific
Item 7	not specific	not specific	not specific	not specific	not specific
Item 8	not specific	not specific	not specific	not specific	not specific
Start address of channel	16476	17840	19018	20196	21374
Size of channel(bytes)	1364	1178	1178	1178	12480
Max number of records	31	31	31	31	960

Profile configuration

5.2.6 GPRS module

It contains all data necessary to set up the TCP or UDP sub-layer of the COSEM TCP or UDP based transport layer of a TCP-UDP/IP based communication profile. The GPRS module can be configured to be always on or on demand and PDP valid or PDP invalid.

GPRS

5.2.7 RTC

Get or set the value of RTC.

you can set the time according PC time or input time by yourself. When set the new time, the meter will compare with the new time, if the time shift is more than the limit value, the new time will be ignored by the meter, and the CAD bit of AMR profile status code E meter will be set.

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Date/time

5.2.8 Tariff

Tariff setup the way energy measurements are recorded by meter.
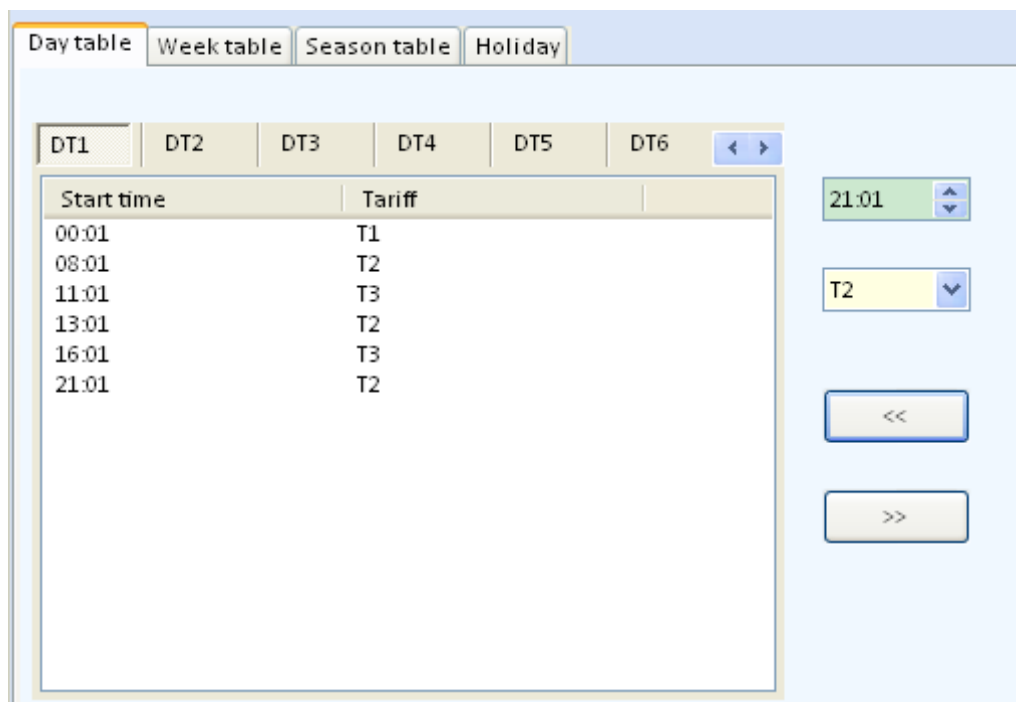
Four tariffs can be configurable, named T1, T2, T3, and T4.

There are active TOU and passive TOU, active TOU is the active calendar, passive TOU is passive calendar, which can be active at passive TOU activation date. They contain day table, week table, season table. Holiday is active forever.

Name	Explanation
Day table	Sets to begin and end at specific times each day
Week table	Defines days of week that use different tariffs
Season table	Is available for seasonal adjustments to the tariff schedule each year
Holiday table	Is used for occasions

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5.2.8.1 Day Table

Day table define the switching of Tariff during a 24 hour day, midnight to midnight. Each day can be divided into maximum 8 periods with different tariff. Maximum 4 day tables can be defined. There are a maximum of 4 tariffs, from T1 to T4.

Day table

Maximum 8 day tables can be defined.

NOTE: Former time must be later than time set before, otherwise, 'Note' dialog box will appear.
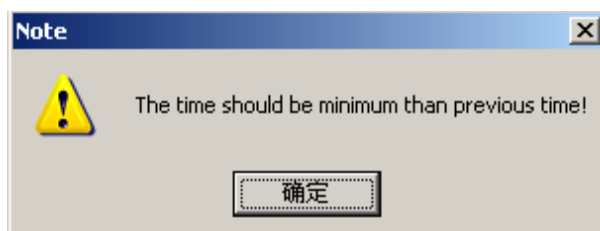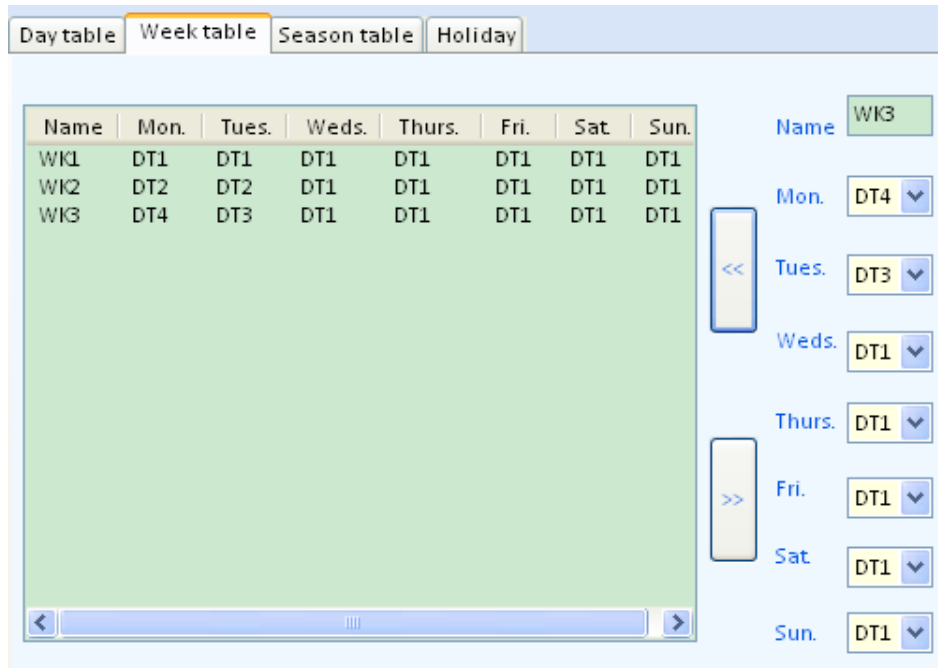
Note

5.2.8.2 Week Table

Week table configures which Day table occurs by default each day of the week. Day table selection is for every day of a week. Select the Day table for each day of the week using the drop down boxes on the right.

Maximum 4 week tables can be defined.

Week table

5.2.8.3 Season Table

It enables user to define tariff in different season. One year can be divided into 4 seasons at most.

Season table

5.2.8.4 Holiday Table

It enables user to specify up to days as holiday.

On the left are public holidays, which are on the same day each year and should not be set the year.

On the right are special holidays, which may be on the different day each year, and should be set the year.

The total holidays (both public holidays and special holidays) can be set 50 at most.

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Holiday table

NOTE: Former date must be later than dates set before; otherwise, 'Note' dialog box will appear.

5.2.9 Power quality

You can read and configure parameters about power quality.

Number of voltage sags—Occurring counts of event that voltage sag. It is read only.

Number of voltage swells-- Occurring counts of event that voltage swells. It is read only.

Number of power failures—Occurring counts of event that power failures. It is read only.

Number of long power failures—Occurring counts of event that long time power failures. It is read only.

Threshold for voltage sag—The value when voltage is higher than it, and the duration is longer than 'time threshold for voltage sag', event of voltage sag will be recorded.

Threshold for voltage sag—see the information above.

Threshold for voltage swell—The value when voltage is lower than it, and the duration is longer than 'time threshold for voltage swell, event of voltage swell will be recorded.

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Threshold for voltage swell—see the information above.

Time threshold for long power failure—The value which the duration of power failure is longer than, event of long power failure will be recorded.

Time threshold for current reverse—The value which the duration of current reverse is longer than, event of current reverse will be recorded.

Number of voltage sags, phase A	
Number of voltage swells, phase A	
Number of times for Current reverse, phase A	
Number of voltage sags, phase B	
Number of voltage swells, phase B	
Number of times for Current reverse, Phase B	
Number of voltage sags, phase C	
Number of voltage swells, phase C	
Number of times for Current reverse, Phase C	
Number of power failures	
Number of long power failures	
Threshold for voltage sag(V)	
Time threshold for voltage sag(s)	
Threshold for voltage swell(V)	
Time threshold for voltage swell(s)	
threshold for voltage Cut(V)	
time threshold for voltage Cut(s)	
Time threshold for long power failure(s)	
Time threshold for current reverse	
Threshold for unbalanced three phase current(%)	
Time threshold for unbalanced three phase current(s)	
Threshold for bypass(%)	
Time threshold for bypass(s)	
Time interval for Zero line detection(s)	

Parameters about power quality 1

Number of voltage sags	
Number of voltage swells	
Number of power failures	
Number of long power failures	
Threshold for voltage sag(V)	
Time threshold for voltage sag(s)	
Threshold for voltage swell(V)	
Time threshold for voltage swell(s)	
Time threshold for long power failure(s)	
Time threshold for current reverse	

Parameters about power quality 2

5.2.10 Disconnector

You can get the output state, control mode，control state , the limiter threshold of disconnector and information of emergency profile， also the control mode of disconnector and emergency profile can be configured. Output state shows the actual physical state of the disconnect unit, i.e. if an electricity breaker or a gas valve is open or closed, the state is 'connected' or 'disconnected'. Control state shows the internal state of the disconnect control object, the state is 'disconnected', 'connected' or 'ready for reconnection'. Control mode configures the behavior of the disconnect control object for all triggers, the possible state transitions are Mode 0 (None. The disconnect control object is always in 'connected' state) ,

Control Logic

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Diagram of relay control logic

Control status:

There are four statuses: disconnected (0), connected (1), ready for connected with lock (2), ready for

connected (3).

- ➤ Disconnected (0): relay is disconnected. Relay is not permitted to execute any operation before receiving connection order from Master Station/PC software or it is designated time for connection.
- ➤ Connected (1): relay is connected.
- ➤ Ready for connected with lock (2): relay is disconnected. Relay won't connect automatically.
- ➤ Ready for connected (3): relay is disconnected. Disconnected by overflow, relay will connect automatically after a specific period.

- ● If Master Station sends order (a) remote disconnect, status will switch to disconnected (0), no matter which status is relay currently under. The physical status of relay is disconnected.
- ● If it is time for disconnection, which is configurable on meter, (b) disconnect time over will be executed. Status will switch to disconnected (0), no matter which status is relay currently under. The physical status of relay is disconnected.
- ● If Master Station sends order (c) remote connect, (c) or (h) will be executed based on current

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control mode.

● If it is time for connection, which is configurable on meter, (d) or (i) will be executed based on current control mode.

● If status is connected (1) and load is over threshold, (f) overload disconnect will be executed automatically and status will switch to ready for connected (3).

● If status is ready for connected with lock (2) or ready for connected (3), (e) manual reconnect can be executed through long press on key for 3 seconds, and status will switch to connect (1).

● If status is ready for connected (3), it can switch to connected (1) through the execution of (k) auto reconnect.

● Generally, (j) N overtime will be executed after specific times of overflow disconnection, then, status switches to ready for connect (2).

● In emergency, (1) E overtime will be executed after specific times of overflow disconnection, then, status switches to ready for connect (2), at the same time, E overtime flag will be set.

● If status is ready for connect (2) and there is E overtime flag, (m) E to N will be executed, when emergency switches to normal situation, then, status switches to connected (1).

● If the working mode permits, (g) manual disconnect can be executed through long press on key for 3 seconds, then, status switches to ready for connected with lock (2).

Control mode:

There are 4 modes: mode 0, mode1, mode 2, mode 3.

Mode 0: no operation can be executed, meter is under protection mode.

Mode 1: executable operations: a / b / c / d / e / f / g / j/ k / l / m / n

Mode 2: executable operations: a / b / e / f / g / h / i / j/ k / l / m / n

Mode 3: executable operations: a / b / c / d / e / f / j/ k / l / m / n

Mode 4: executable operations: a / b / e / f / h / i / j/ k / l / m / n

Power utilities can choose one of the four modes or switch from one mode to another while in operation.

Parameters Definition On PC Software Interface:

Active parameters:

Active limiter threshold(A): overflow threshold of currently used relay

Active mode: it is in Emergency mode or Normal mode currently

Output state of disconnection: shows the actual physical state of the disconnection.

Control state of disconnection: shows the internal state of the disconnection

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Control mode of disconnection: Configures the behavior of the disconnection for all triggers.

Controlled by demand: if the disconnection is controlled by demand

Disconnect control scheduler: controllable time table of relay

Limit method: power threshold and current threshold is optional.

Normal mode

Table of normal limiter threshold: relay control threshold table

Min over threshold duration(s) is delayed time threshold, which means over limiter threshold " Min over threshold duration" seconds，relay will disconnected; and the default time is 30s；

Threshold for connection after disconnect is the delayed time of automatic connection after the relay disconnected;

Allowed counts for auto reconnection [C1] is the allowed counts of automatic connection in the short time;

Time threshold to clear C1 is the time after relay connected. C1 will clear if the relay no changing. Therefore, Time threshold to clear C1 is a value must bigger than Min over threshold duration(s) and

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Threshold for connection after disconnect, otherwise the number of times will be cleared when the relay not connects automatically yet after disconnection, and the allowed counts will be meaningless. The objective of this function is let relay possesses the function of automatic connection, but the number of times of connection cannot be too much in the short time.

Emergency mode

Table of normal limiter threshold: relay control threshold table under emergency mode

Min over threshold duration(s) is delayed time threshold under emergency mode, which means over limiter threshold " Min over threshold duration" seconds，relay will disconnected, and the default time is 30s;

Threshold for connection after disconnect is the delayed time of automatic connection after relay disconnected under the emergency mode;

Allowed counts for auto reconnection[C1] is the allowed counts of automatic connection in the short time under emergency mode;

Time threshold to clear C1 is the time after relay connection under emergency mode; C1 will clear if the state of relay is no changing.

The emergency mode is activated via the emergency profile defined by emergency profile id, emergency activation time, and emergency duration.

An emergency_profile is defined by three elements: emergency_profile_id, emergency_activation_time, emergency_duration.

An emergency profile is activated if the emergency_profile_id element matches one of the elements on the emergency_profile _group_id_list, and time matches the emergency_activation_time and emergency_duration element:
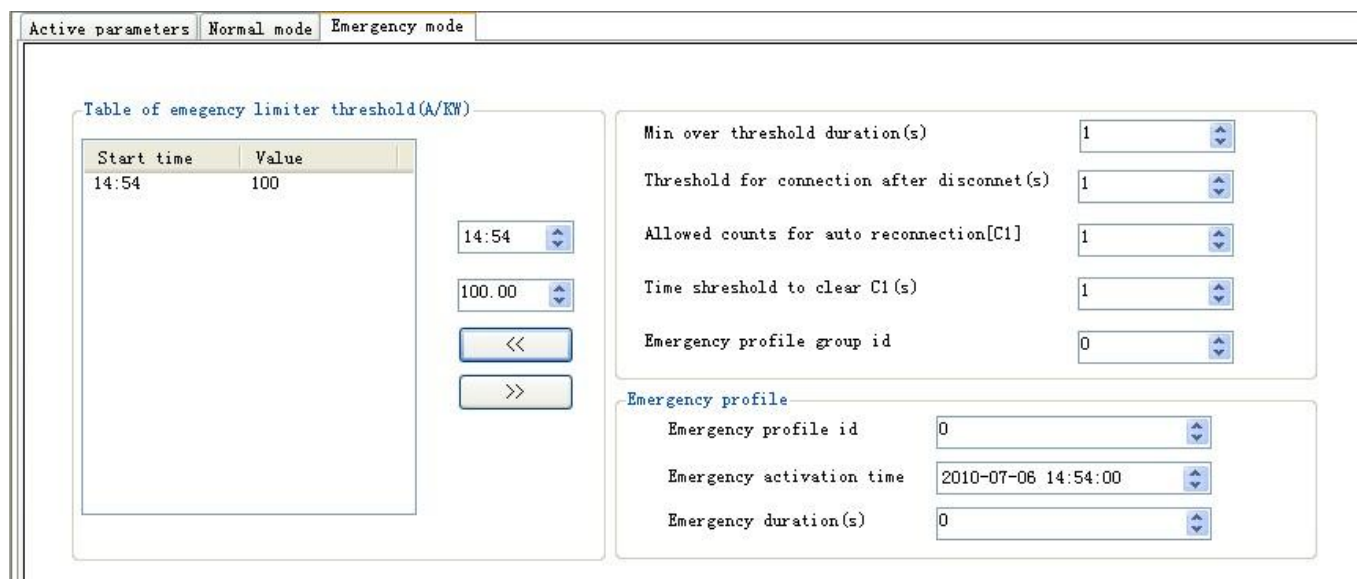
emergency_profile ::= structure

{

  emergency_profile_id: long-unsigned,

  emergency_activation_time: octet-string,

  emergency_duration: double-long-unsigned

}

emergency_activation_time defines the date and time when the emergency_profile activated. emergency_duration defines the duration in seconds, for which the emergency_profile is activated.

When an emergency profile is active, the emergency_profile_active attribute is set to TRUE.

5.2.11   Modify keys

Master key is used for wrapping new Authentication key and Global key. It can not be changed. Authentication key and Global key can be changed, before changing them be sure that the master key is filled correctly. If the keys is changed, user should fill the new key when login HexView in menu

. The keys will always be default value after login HexView.

5.2.12   Firmware upgrade

The new image will not be active immediately after firmware update communication, it will be active at activation time. Image version is the version of image wait to active.

5.2.13   Function switch

If the set item is invalid, the meter will not record corresponding event.

5.3 Execute

The Meter Execute is used for setting the special operations in the meter.
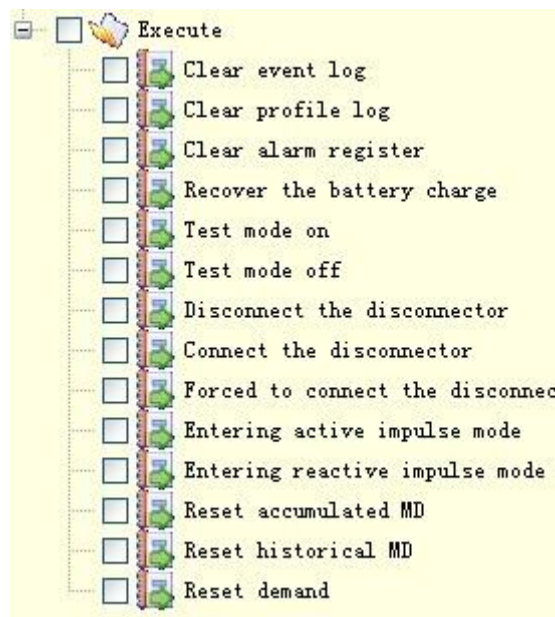
Meter Executing System

If execute some functions, click the Checkbox on the left of corresponding items, and click   .

These operations will be finished in the meter.

NOTE: When executing, be cautious of these operations.

NOTE: Due to continuous improvement of the software, the screenshot shown in this user manual might be slightly different with the actual software interface. Information in this document is subject to change without notice. The information is accurate at the time of printing (March, 2013) © Hexing Electrical

Hexing Electrical

Add: Shangcheng Industrial Zone, 1418 Moganshan Rd, Hangzhou, China

TEL: +86-571-28020767/769

FAX: +86-571-28029263

www.hxgroup.cn

market@hxgroup.co

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